



## **BAYFIELD COUNTY FORESTRY AND PARKS DEPT.**

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### **BAYFIELD COUNTY FOREST ANNUAL WORK PLAN**

January 1 through December 31, 2013

The Bayfield County Forest Work Plan for the 2013 calendar year gives direction and meaning to the Forestry and Parks budget, further defines and supplements the Comprehensive Fifteen Year Land Use Plan, and emphasizes current needs of the County Forest. **This plan complies with Chapter NR47 Wisconsin Administrative Rules for the administration of the County Forest Administrator Grant Program.**

#### **SUSTAINABLE TIMBER HARVEST**

The primary mission of the Bayfield County Forestry and Parks Department is to manage, conserve, and protect the natural resources of the County Forest. Multiple use and sustainable forest management practices will be utilized to provide a wide variety of forest products and amenities for current and future generations. Sustainable forest management is commonly defined as meeting the forest resource needs and values of the present without compromising the similar capabilities of future generations.

Timber harvests are important for the economic well being of Bayfield County, as well as for the health and vigor of the forest. One of the objectives of timber management is to produce a perpetual sustained yield of forest products. In part, this is realized through the analysis and scheduling of forest stands and, ultimately, the development of sustainable annual and long term harvest goals. Professional implementation of proper forest management and harvesting techniques is essential. Existing reconnaissance data, along with thorough field inspections conducted by department and DNR foresters, will be used to determine which stands are ready for treatment. In addition, the long term monitoring of stands that have received treatment is crucial in determining the success of past management practices, as well as the development and implementation of future prescriptions.

#### **Annual Sustainable Harvest Goal**

The estimated 2013 sustainable allowable harvest goal for the Bayfield County Forest is 4,815 acres. This represents a decrease of 513 acres (roughly 10%) when compared to the harvest goal for 2012. The primary reason for the decrease was the addition of backlogged stands (stands that

were scheduled for management, but never established) to the goals for 2012. These stands were managed in 2012 and totaled over 400 acres. No additional backlogged acres were added to the goals for 2013.

Table 1 displays the sustainable harvest goal (acres) per primary timber type for 2013 (annual harvest goals may be adjusted for a variety of reasons, i.e. response to unanticipated natural events or significant changes in reconnaissance data). The goal for 2012 is also included for comparison:

**Table 1: 2012 Sustainable Harvest Goal (acres)**

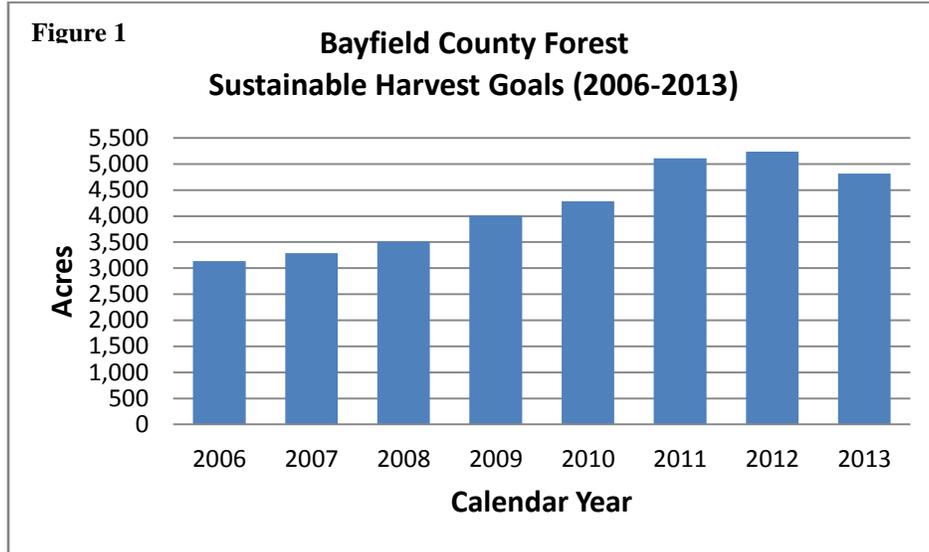
<b>Timber Type</b>	<b>2012</b>	<b>2013</b>
Aspen	1,235	1,170
Northern Hardwood	1,185	970
Red Oak	763	795
Paper Birch	100	50
Scrub Oak	140	215
Red Pine	991	900
Jack Pine	504	275
White Pine	100	120
Swamp Conifer	130	130
Swamp Hardwood	120	140
Fir/Spruce	60	50
<b>Total</b>	<b>5,328</b>	<b>4,815</b>

One of the objectives in managing the forest is to strive for a regulated, even flow of treatments, equally distributed over the landscape. However, sustainable harvest goals typically fluctuate slightly from year to year. Most fluctuations are explained by the irregular distribution of age classes over the entire forest and, subsequently, when they are ready for management. Among other things, fluctuations are also a result of a change in management direction for individual timber types, responses to natural disturbances or other unforeseen natural events, a relatively poor response in growth from previous management, or modifications in response to accomplishments from the previous year (i.e. the management of backlogged stands).

On the Bayfield County Forest, the primary annual differences in sustainable harvest goals are a result of a variety of factors, some of which include: improved reconnaissance information, a significant increase in the number of stands reaching management age (particularly in the aspen and red pine types), the inclusion of harvest goals for the swamp hardwood and swamp conifer timber types, adjustments in the management approaches of the aspen, red oak and northern hardwood timber types, and modifications as a result of previous accomplishments.

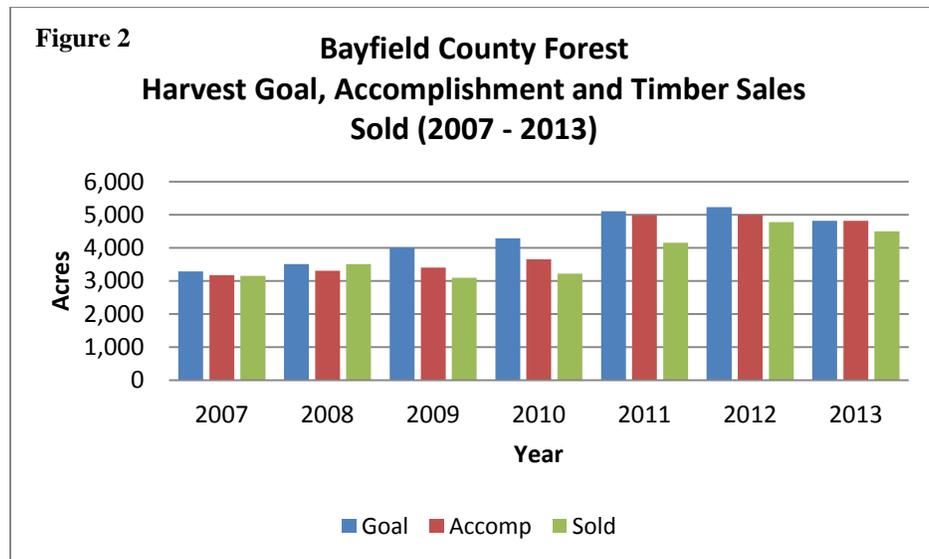
Since 2006, the sustainable harvest goal has increased approximately 54%; from 3,134 acres in 2006 to 4,815 acres in 2013. The peak harvest in 2012 was a result of including over 400 acres of backlogged stands (primarily northern hardwood) as part of the goal. Harvest goal projections indicate a sustainable long term average of 4,600 to 5,000 acres per year.

Figure 1 displays the total sustainable harvest goals over the past eight years.



Maximizing the sustainable management of the county forest was a primary goal heading into calendar year 2011. As displayed in Figure 1, the average sustainable harvest goal from 2011 through 2013 increased by over 1,560 acres per year when compared to the average goals from 2006 through 2009. In addition, numerous other forest management responsibilities increased over the same time period creating a significant deficit in accomplishments for annual and long term goals. To address the deficit, in the early winter of 2011, one full time forester position was added to the staff. The impact of the additional forester was immediate.

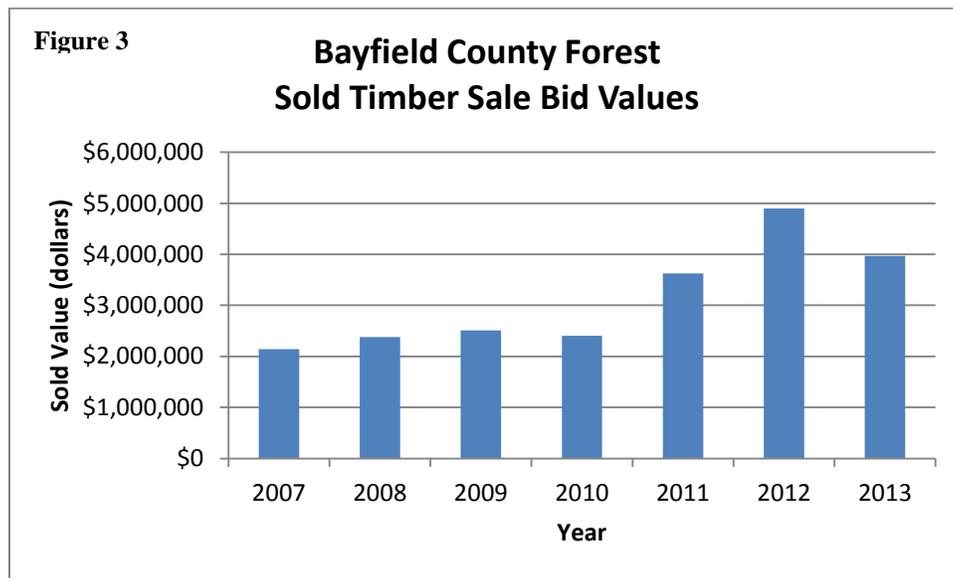
Figure 2 displays the annual sustainable harvest goal, accomplishment and sold timber sales from 2007 through 2013 (2012 and 2013 are estimates):



Maximizing the sustainable harvest of the forest has numerous benefits. Not only does it have the potential to significantly increase revenues, but it also supports numerous local jobs, fosters new job growth, provides additional recreational opportunities, and provides exceptionally well managed products to local wood industries.

Prior to 2011, the Forestry and Parks Department averaged 45 sales, covering 3,044 acres per year. The average total winning bid value for those sales was approximately \$2.4 million. Since 2011, the Department has averaged 53 sales, covering nearly 4,500 acres. During that time, the average total winning bid values have increase by 80%, to \$4.3 million. Once these changes become regulated and bid values normalize to reflect the increase in managed acreage (and prices remain relatively constant), Bayfield County could see annual stumpage revenues that approach \$4.0 million....nearly double our current average!

Figure 3 displays the total sold value of timber sales from 2007 through 2013 (2013 is an estimate and is based upon the average prices paid over the last three years):



### **FOREST INVENTORY**

Correct, up-to-date stand information is imperative in the development of accurate short and long term sustainable harvest goals. There is a direct correlation between the quality and accuracy of the reconnaissance data and the ability for forest managers to confidently develop precise short and long term sustainable harvest goals. The accuracy of any sustainable harvest goal is only as good as the data from which it was derived. Therefore, it is important to update a certain level of stand information on an annual basis.

In 2013, approximately 10,000 acres of County Forest will be re-inventoried. Most will be in the form of entire compartment updates, but priority stands will also be identified. Prior to 2010, the direction was to re-inventory approximately 10% of the forest each year, or roughly 17,000 acres. The new direction will to establish a 15 year re-inventory cycle. Since 2001, 153 of 202 compartments, totaling nearly 124,000 acres have been updated. The goal is to re-inventory the

remaining 49 compartments over the next 5 years. Once completed, it will put the department on pace to achieve the 15 year re-inventory goal. At which time, a 15 year, modified re-inventory cycle will be put in place. In the meantime, inventory priorities will be placed on forest compartments that contain a larger percentage of old data ( $\geq 20$  years old), as well as compartments that contain a larger percentage of stands prescribed for management in the near future.

Individual timber types or stands of certain priority types may take precedence over the inventory of an entire compartment. In timber types such as red oak, where a significant portion of the type occurs within the 80 to 90 year age class, it will become increasingly important to determine which stands are in greater need of management. Obtaining good reconnaissance information and the development of a priority management system on all mature red oak will continue to be a priority in 2013.

## REFORESTATION

Reforestation, be it natural or artificial, is a core building block of forest sustainability and a fundamental component of any forest management program. A successful reforestation program provides numerous benefits, some of which include: the restoration of forest productivity, fertility and environmental function; the assurance of a perpetual, sustainable supply of forest resources and amenities for future generations; the protection of soil and water quality; and the establishment and development of quality wildlife habitat. Table 2 displays the reforestation efforts that are planned for 2013:

**Table 2: Bayfield County Forest 2013 Reforestation Program (acres)**

Year	Planting			Seeding	Site Preparation				Maintenance		Monitoring
	Red Pine	Jack Pine	White Pine	Jack Pine	Trench	Fire Plow	Scarify	Spray	Rx Fire	Spray	Survival Counts
2013	245	288	59	575	200	0	100	100	0	400	2,750
5 yr. avg	357	198	77	82	503	94	31	362	33	234	2,216

### Spring Planting

Tree species planted during the 2013 season will be as follows: on new planting sites, approximately 164,000 Red Pine, 95,000 Jack Pine, and 27,000 White Pine and White Spruce covering 414 acres; on sites that will be replanted, approximately 13,000 Red Pine and 63,000 Jack Pine covering 178 acres (these sites are being replanted primarily due to mortality caused by over browsing from white tailed deer). All seedlings are containerized stock and will be hand planted by contract planters.

### Spring Seeding

In 2013, approximately 575 acres of Jack Pine will be aerially seeded. The acreage is primarily located within the Barnes Barrens Management Area, which will be managed with an emphasis

on developing pine barrens habitat. Seeding creates a more variable and natural stand condition which has been shown to be more preferable to species dependent on pine barrens habitat.

### Site Preparation and Release

In 2013, approximately 200 acres are planned for site preparation via power trenching, 100 acres will be treated with chemical and 0 acres will be fire plowed. In addition, approximately 100 acres of red oak will be scarified. Scarification will facilitate the natural regeneration of red oak and paper birch, as well as reduce competition from non-desirable species, such as ironwood and red maple.

Approximately 400 acres of young red pine plantations will be aerial sprayed to release the conifer from competition. The prescribed burn program will be reviewed in 2013 to gauge the effectiveness of fire. As a result, 0 acres will be treated with fire in 2013, though roughly 40 acres of red oak may be mechanically released (via chainsaw), if conditions allow.

### Natural Regeneration

Thousands of acres of natural regeneration will occur on a variety of forest types. The exact amount is solely dependent on the total number of acres harvested in previous years. Forest types such as northern hardwoods and aspen regenerate naturally via seed, stump sprouting and/or coppicing (vegetative sprouting from existing root system) and require very little additional input from the department. However, the natural regeneration of hardwood forest types such as red oak and paper birch do require additional departmental maintenance efforts. Examples of additional inputs include: pre or post sale site scarification to prepare a favorable seed bed and reduce competition, pre or post sale burning to reduce competition from undesirable tree seedlings and prepare favorable seedbeds, and deer browse protection i.e. fencing, repellents, etc. to improve the tree seedlings chance of survival. These additional inputs occur when opportunities arise and are treated on a case by case basis.

### Seedling Counts

All planting sites and many areas that were regenerated naturally require survival counts. Data collected from the counts are used to determine stocking levels of desired tree species and, ultimately, to evaluate the success of the reforestation attempt. Seedling counts are administered at one, two, three and five years after the regeneration attempt on most planted sites. Seedling counts on naturally regenerating hardwood stands are typically administered two to four years after harvest (depending on the forest type) and also include one to two additional surveys to determine success. In 2013, seedling counts will be administered on roughly 1,550 acres of sites that were regenerated artificially (planted or seeded) and on roughly 1,200 acres of sites regenerated naturally.

### Prescribed Fire

Prescribed fires have traditionally been used to maintain portions of the fuel breaks located in the Township of Barnes, as well as to facilitate natural red oak reproduction in stands located

throughout the county forest. In 2013, 0 acres of forested stands will be treated with prescribed fire. Portions of the existing fuel breaks may be treated with fire if conditions allow. If conditions allow, portions of the existing fuel break may receive maintenance burns.

## **WILDLIFE**

A number of wildlife projects will again be undertaken in 2013. The majority of wildlife habitat improvement work conducted on County Forest land will be accomplished utilizing funding from Wisconsin DNR grant programs, specifically, the County Conservation Aids and Nickel-an-Acre programs. The Nickel-an-Acre program reflects a change from the previous Dime-an-Acre funding. As indicated in the name, the program funding was cut in half starting in 2010 and will continue to be funded at a nickel an acre into the foreseeable future. The County Conservation Aid grant requires a 50% County match on eligible projects.

The Conservation Aids project for 2013 have yet to be determined. There is approximately \$7,986 available for eligible projects. Additional monies may also be available, as determined by the total amount of unallocated funds.

The Nickel-an-Acre grant totals \$8,467. This grant has been used to fund a variety of County Forest wildlife projects in the past.

Potential projects for 2013 could include, but are not limited to:

- Hunter walking trail repair, clearing, and mowing.
- Site prep and seeding for jack pine in the Barnes Barrens Management Area.
- Mechanical and/or chemical treatments for wildlife opening maintenance (currently roughly 100 acres combined per year).
- Wildlife habitat development/improvement.
- Mechanical site prep for natural white birch and red oak regeneration.
- Prescribed burning of wildlife openings and oak regeneration areas.
- Fish habitat projects.
- Habitat projects on old homesteads.
- Wildlife monitoring.
- Breeding bird surveys.
- Land acquisition.
- Invasive species eradication.
- Deer exclosures for red oak regeneration (fencing).

## **ACCESS MANAGEMENT**

The Access Management Plan will continue to be implemented in accordance with the Bayfield County Forest Comprehensive Land Use Plan. Criteria for classification of roads will be clarified and then applied when designating existing and planned transportation networks. The access management plans for the Cable and South Barnes blocks are complete. Planning for access management on the remaining portions of the County Forest began in 2012 and will continue through 2013.

The Forestry Department will continue to maintain 36.09 miles of Primary Forest roads, for which we receive DOT County Forest Road Aids. The Department will also continue identify, plan and/or develop additional forest roads and trails, as the need arises, for later entry into the County Forest Road program.

### **BAYFIELD COUNTY FOREST PLAN**

The existing County Forest Comprehensive Land Use Plan for the period 2006 – 2020 will be amended to reflect changes and/or updates. Some items that may require updating in 2013 include, but are not limited to:

- Access management.
- Integrated Resource Management Unit (IRMU) summaries.
- IRMU boundaries.
- Barnes Barrens Management Plan summary.
- Timber sale contract language.
- Firewood permit language.
- Timber sale rutting policy.
- Forest certification (addition of FSC).

### **OTHER ACTIVITIES**

#### Recreation:

The department will continue to work with the County Tourism and Recreation Department and interested user groups regarding recreational activities occurring on the County Forest. The demand for recreational use on County Forest land continues to increase. Over the past few years, the Forestry and Parks Committee has approved numerous re-routes of snowmobile and ATV trails, the construction of a new mountain bike trail network and improvements to existing cross country ski trails. Requests to host events on trails located within the county forest continues to increase as well. Some of the more notable events that utilize portions of trails located on the county forest include: the American Birkebeiner Cross Country Ski Race, the Chequamegon Fat Tire Mountain Bike Race, the Cable Area Off-Road Classic Mountain Bike Race and the Apostle Islands Sled Dog Race. Requests for new or improvements to existing motorized and non-motorized trail systems are expected to continue in 2013 and beyond. Requests for additional trails will be treated on a case by case basis, as per the Access Management Plan.

Trail counters and a voluntary donation tube were placed on the Jerry J. Jolly/Pike's Creek trail. The counters were strategically placed in an attempt to acquire information on how often the trail is being used. The data received from these counters will provide the County with valuable information needed to determine future direction. Counters will also be used to monitor other recreational locations in 2013.

The lost creek falls trail will need some minor attention. The trail needs to be better defined and

signed, including some brush work and the removal of a few hazard trees, and possibly re-routed in areas to avoid sensitive soils.

#### Insects and Disease:

The Department is continuing to monitor the effects of forest insects such as the Jack Pine Budworm, Two-Lined Chestnut borer, Emerald Ash borer, and Gypsy Moth. If any additional sites containing a significant amount of damage are discovered, they will be promptly managed. Also, as new threats are encountered, the Department may need to alter management plans accordingly.

The most notable “new” threat regarding the overall health of the forest is the Gypsy Moth. Gypsy Moth numbers, and subsequent defoliation, have been observed in very high numbers in the Bayfield Peninsula. The greatest numbers have been found along higher elevations located in the general vicinity of Jammer Hill and Echo Valley Roads. Red Oak and Aspen are their preferred primary food sources and are the most susceptible to potential mortality, especially the suppressed and over mature individuals. Significant defoliation of Red Oak and Aspen occurred in these areas during the summer of 2012. Egg mass numbers continue to be high, indicating that a significant defoliation event may again occur in 2013, and, potentially, into the next few years (unless Mother Nature intervenes). As a result, all Red Oak management may be suspended in areas where egg mass counts remain high (currently IRMU’s 1 and 8), until the defoliation event has been reduced to a manageable level (most likely a 2 to 3 year furlough). If Oak management is reduced in IRMU’s 1 and/or 8, the sustainable goal in all other units may be adjusted accordingly.

The Department is currently working with the DNR to determine the best course of action regarding general forest management practices in the face of a threatening Gypsy Moth defoliation event, in particular, the management of the red oak type.

#### Land Acquisition:

The department will continue efforts to acquire private properties on a willing seller, willing buyer basis when advantageous to the long term goals of Bayfield County.

*Submitted by Jason Bodine, Bayfield County Forest Administrator, December 10, 2012.*